

PATENT COOPERATION TREATY

From the
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PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2005/004745

International filing date (day/month/year)
15.02.2005

Priority date (day/month/year)
23.03.2004

International Patent Classification (IPC) or both national classification and IPC
C23G1/18, C23G1/22, C23F11/167

Applicant
JOHNSON DIVERSEY, INC.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/004745

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/004745

Box No. V Reasoned statement under Rule 43*b*/s.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	12,17-19
	No: Claims	1-11,13-16,20
Inventive step (IS)	Yes: Claims	18,19
	No: Claims	12,17
Industrial applicability (IA)	Yes: Claims	1-20
	No: Claims	

2. Citations and explanations

see separate sheet

90/593365

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

19980901 PCT/US 19 SEP 2000
International application No.

PCT/US2005/004745

- 1 The following **documents** are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: US-A-4 752 411 (PETON NICOLE ET AL) 21 June 1988 (1988-06-21)

D2: US-A-4 578 208 (GEKE JUEERGEN ET AL) 25 March 1986 (1986-03-25)

2 NOVELTY

- 2.1 The present application does not meet the requirements of Article 33(1) PCT because the subject-matter of claims 1-11, 13-16 and 20 is not new in the sense of Article 33(2) PCT.
- 2.2 Document D1 discloses alkaline cleaning compositions having a pH of about 10-11 (cf. col. 3, lines 8-10) comprising phosphoric esters, alkanolamine, alkaline agent, anionic surface agents, nonionic surface agents, chelating agents, water and optionally, other compatible additives, which are diluted from 1 to about 4, with tap water (cf. claims 7 and 8) and that the diluted compositions are used for cleaning hard surfaces (cf. claim 10). The preferred composition of D1 comprises a mixture of oxyalkylenated phosphate mono- and diesters, wherein the alkyl chain of the esterifying group has from 8 to 12 carbons, alkylene oxide group has from 2 to 3 carbons and they are present in a number from 2 to 18 molecules and M is an alkaline cation such as sodium or potassium, or the residue of an alkanolamine (cf. col. 3, lines 25-58, claim 1). Furthermore, the alkaline compositions comprise: triethanolamine (cf. examples 1, 2, 3); alkaline salt such potassium carbonate (cf. col. 4, lines 15-16, claim 1, Table I, compositions 1-15); a mixture of fatty acids having from 16 to 18 carbons (i.e. anionic surfactant and also defoamer) (cf. col. 3, lines 22-23, claim 1, Table I, compositions 1-15); oxyethylated fatty alcohol having from 12 to 14 carbons and 6 ethoxy molecules (i.e. nonionic surfactant and also hydrotrope); at least one chelating (i.e. sequestering) agent such as ethylene diamine tetraacetate (i.e. EDTA) (cf. Table II, compositions 10-14), sodium nitrilotriacetate (example 3, composition 15), trisodium citrate (cf. Table I, composition 1-9); and demineralized water (cf. Table I, II, example 3). The attention of the applicant is drawn to the fact that the intended use of a product cannot be regarded as a

distinctive feature in a product claim (see PCT International Search and Preliminary Examination Guidelines, Chapter 5, point 5.21).

Thus, the subject-matter of claims 1-11 and 15 is not new.

The subject-matter of the use claim 20 is too general. Therefore, the first part of the claim 20, namely "use of the cleaning and corrosion inhibiting composition according to any claims 15 to 17 in the form of concentrate or a diluted use solution or as an additive" is not new (see PCT International Search and Preliminary Examination Guidelines, Chapter 5, point 5.21), but the second part of the claim 20, namely "for treating surfaces of aluminum or colored metals and alloys thereof, preferably copper, brass, bronze, zinc, and bismuth" is new.

Thus, the subject-matter of claim 20 is not new.

Moreover, D1 discloses for each component present in the above alkaline compositions the proportions by weight (i.e. the percentages by weight) indicated in relation to the total weight of the composition (cf. col. 2, lines 35-66). According to the examples the compositions comprise: from 9% to 16% ethoxylated alkyl ether phosphate (cf. compositions 1-15); neutralized with triethanolamine (see examples 1, 2, 3); 8% potassium carbonate (cf. compositions 1-15); 8% dihydrated trisodium citrate (cf. compositions 1-9), 7.2% EDTA (cf. compositions 10-14), 8% sodium nitrilotriacetate (see composition 15); 8% nonionic surfactant such as oxyethylated fatty alcohol C₁₂-C₁₄, 7EO (cf. compositions 1-15); 4% anionic surfactant (i.e. defoamer) such as potassium soap of C₁₆-C₁₈ fatty acids (cf. compositions 1-15); an additional anionic surfactant from the group consisting of alkylbenzene sulfonates, alpha-olefin sulfonates, etc (i.e. hydrotrope) (cf. claims 2 and 6) such as alpha-olefin sulfonates, C₁₄-C₁₆ from 2 to 7% (see compositions 10-13); and demineralized water, sufficient to make 100% (cf compositions 1-15).

Thus, the subject-matter of claims 13, 14 and 16 is not new.

3 INVENTIVE STEP

- 3.1 Claim 12 of the present application only introduces an additional feature relating to the "additionally containing of a corrosion co-inhibitor, selected from the group consisting of triazoles and derivates thereof, ..." in the alkaline composition disclosed in claims 1 to 11 compared to the alkaline composition disclosed in D1. Because no unexpected effects or properties linked to this additionally adding of corrosion co-inhibitor are indicated in the application, the skilled person would consider that as a normal practice in the field which can be simply defined by experiment. However, it is well known in this field to use an additionally corrosion co-inhibitor.

Hence, no inventive step is present in the subject-matter of claim 12.

- 3.2 Claim 17 of the present application only introduces an additional feature relating to the dilution of the concentrate of the alkaline composition disclosed in the claim 16, which is diluted from 1 to 100 with water. It is obvious that by modifying the dilution compared to that used in D1 (cf. claim 8) the skilled person would consider this as a normal practice which can be simply defined by experiment. Such a selection can only be regarded as inventive, if this particular dilution proportions (i.e. 1:100) present unexpected effects or properties in relation to other dilution proportions. However, no such effects or properties are indicated in the application.

Hence, no inventive step is present in the subject-matter of claim 17.

- 3.3 Document D2 is considered to represent the most relevant state of the art for independent claims 18 and 19 and discloses compositions and processes for cleaning and corrosion inhibiting of metal surfaces such as aluminium, zinc nonferrous and lightweight metals (cf. col. 2, lines 36-44) comprising contacting the metal surfaces with the alkaline compositions at a temperature in the range of from 20°C to about 100°C (cf. claims 13 and 14) for relatively short contact times, e.g. within the range of about 15 seconds to about 5 minutes (cf. col. 4, lines 60-62). Furthermore, D2 discloses alkaline compositions with a pH from about 7.5 to about 10.5 (cf. col. 4, lines 21-23, claim 7) comprising from 0.01 to 1 g/l of at least one phosphoric acid ester selected from: mono-

or diester of phosphoric acid with C₁₀-C₂₀ alkanols, mono-or diester of phosphoric acid with C₂-C₃ alkoxyated C₁₀-C₂₀ alkanols phosphoric acid ester of poly-C2-C3-akylene glycol ether or water soluble salts of them (cf. claim 1); from 0.25 to 25 g/ l of alkanolamine; from 0.001 to 1 g/ l of at least one nonionic surfactant (cf. claims 1-4); chelating agents such as EDTA or nitrilotriacetate (cf. col. 4, lines 11-14, claim 5, 6); a non-ferrous metal inhibitor such as mercaptobenzothiazole or benzotriazole (cf. col. 4, lines 53-55, examples 5-8, 32-34). The preferred compositions used in processes for cleaning and corrosion inhibiting of metal surfaces disclosed in the document D2 are monoesters of phosphoric acid with ethoxylated linear C₁₀-C₂₀ alkanols and their sodium, potassium, ammonium or alkanolamine salts (cf. col. 2, lines 63-65, examples).

The present application can be considered as selection invention with regard to the document D2. Since the application as filed clearly indicates special effects for the diesters used in the disclosed corrosion inhibiting composition used in processes for cleaning and corrosion inhibiting of metal surfaces (see examples G and H of the present application) compared to the state of the art disclosed in D2, namely monoesters (see examples E and F of the present application), claims 18 and 19 are inventive.

Thus, the subject-matter of claims 18 and 19 is inventive.

4 INDUSTRIAL APPLICABILITY

- 4.1 The invention shall be considered as susceptible of industrial application because it can be used in the corrosion inhibiting industry.